CASES

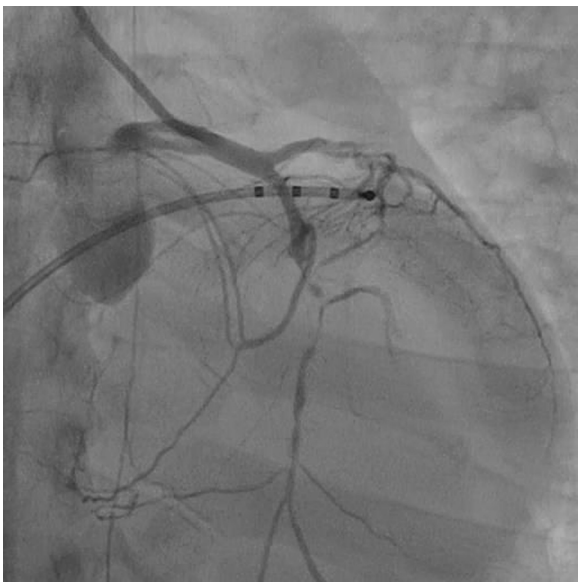
High Risk Patients: Diabetes, Heart Failure, Renal Failure, Others (TCTAP C-150 to TCTAP C-159)

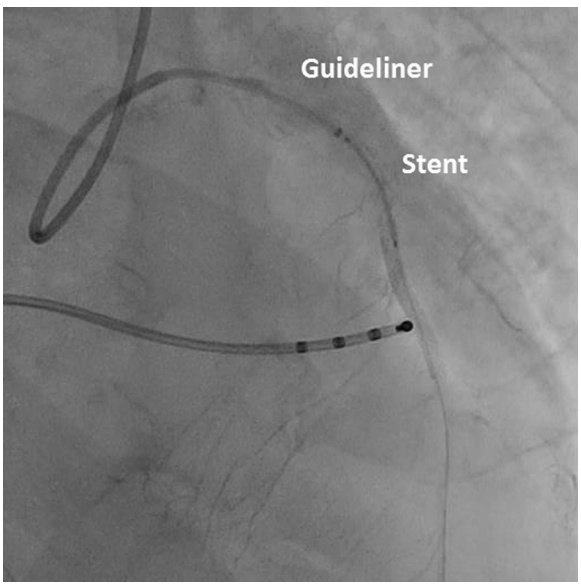
TCTAP C-150

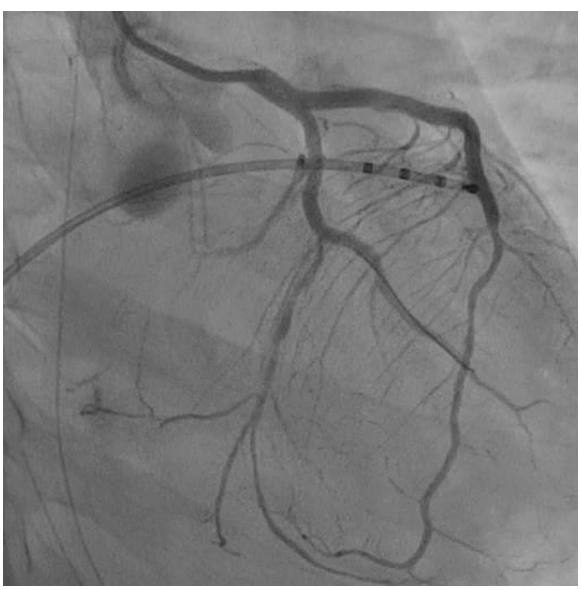
Total Revascularization Under Extracorporeal Membrane Oxygenation Support in a Case of Acute MI & Cardiogenic Shock

Ahmed Mousa Akl, Hon-Kan Yip
Kaohsiung Chang Gung Memorial Hospital, Taiwan

[Clinical Information]
Patient initials or identifier number:
5905738
Relevant clinical history and physical exam:
50 years old gentleman, diabetes mellitus type 2. He had intermittent chest tightness for six months but he didn't visit any physicians. Progressive chest pain was noted on admission afternoon. The chest pain was accompanied with cold sweating and exertional dyspnea. There was no fever, chills, cough with sputum, and palpitation. Due to progressive chest pain, he was sent to our ER. At ER, tachycardia (> 160 bpm) and hypotension were noted. The breathing sound showed diffuse rales. Ventricular tachycardia was noted via EKG monitor, so syncronidzed cardioversion with 100J was done.
Relevant test results prior to catheterization:
Lab data showed leukocytosis, elevated cardiac enzyme, elevated CRP and BNP. CXR revealed bilateral infiltration. Besides, series EKG showed complete LBBB.
Relevant catheterization findings:
LM: mild atherosclerosis
LAD: very proximal segment had 99% diffused stenosis; mid segment had 80% stenosis with thrombus formation
LCx: co-dominant vessel; mid segment had subtotal occlusion
RCA: dominant vessel; chronic subtotal occlusion from very proximal
[Interventional Management]
Procedural step:
** CPR and insertion of support devices:
On arrival to cath lab, IABP was implant via right femoral artery. However under IABP support. The patient developed complete heart block a temporary pacemaker was inserted via right femoral vein. Despite full dose of dopamine use the patient developed cardiac arrest (pulseless electrical activity). Cardiac massage was performed while waiting for the ECMO setting. Cardiac massage was done for about 20 mins. After all mechanical devices were set up PCI performed via right brachial artery. After diagnostic angiograph, triple vessels CAD was found. We had discussed with family for CABG but the family refused CABG.
*** Cath basic data:
start:2013/10/22 (yy/mm/dd) 21:30 (hh/mm)
end:2013/10/22 (yy/mm/dd) 23:05 (hh/mm)
Omnpaque contrast volume: 300 ml, Cr: 1.1 mg/dl
Vascular access:
Arterial sheath: 6F via R't brachial artery
Diagnostic catheter:
LCA: 6F Boston Kimny; RCA: 6F Boston Kimny
Guiding Catheter:
LCA: 6F Boston Kimny; RCA: 6F Boston Kimny
Supporting device: IABP,ECMO,temporary pacemaker and mechanical ventilator
CPR: CPR with cardiac massage
** PCI to LAD:
A Runthrough NS guidewire was advanced to distal LAD. A Sprinter Legend 2.5x20mm balloon was inflated at proximal segment at 10atm. A Sprinter Legend 3.0x20mm balloon was inflated at mid to proximal at 16atm. Three BMS (Integrity 3.0x18mm, 3.0x30mm, 2.75x30mm) were deployed with 16 atm at proximal mid and distal LAD. We had difficulty in delivering the 3.0x30 mm stent, we use the Guideliner with a Sprinter Legend 3.0x20mm balloon anchored at distal LAD. The LAD had a residual stenoses of 18% (MLD/Ref:2.81/3.87mm) at proximal, 7% (MLD/Ref:2.39/3.50mm) at mid and 10% (MLD/Ref:2.31/3.15mm) at distal.
** PCI to LCx:
A Asahi Sion guidewire was advanced to distal LCx and a Runthrough NS guidewire to distal OM. A Sprinter Legend 2.5x20mm balloon was inflated at the mid segment and mid LCx-OM1 at 16atm, resulting a 45% residual stenosis (MLD/Ref:1.38/2.85mm). A BMS (Integrity 2.75x22 mm) was deployed at mid-LCx-OM1 with 14 atm. The mid-LCx had a 15% residual stenosis (MLD/Ref:2.36/3.26mm), TIMI 2 flow.
** PCI to RCA:
A Runthrough NS guidewire was tried to wire the subtotal lesion but failed. A Asahi Ultimate Bros3 guidewire was used to wire the lesion and was advanced to distal RCA. The mid to proximal segment was dilated with a Mini Trek 1.5x20 mm and a Trek 2.0x20mm balloons up to 16 atm. The RCA was further dilated with a Hiryu 3.0x20 mm balloon up to 12 atm. Three BMS (Integrity 3.5x12mm, 3.0x30 and 3x30 mm) were deployed at os-p-m RCA up to 16atm. The RCA had a residual stenosis of 10% (MLD/Ref:3.18/4.77mm) at proximal, 5% (MLD/Ref:2.55/3.41mm) at mid and 14% (MLD/Ref:2.66/3.59mm) at distal.







Case Summary:
This is a challenging case of fifty years old gentleman presented by STEMI (LBBB), cardiogenic shock then he developed cardiac arrest. PCI was done post CPR and under mechanical ventilation, IABP, temporary pacemaker and Extracorporeal Membrane Oxygenation (ECMO) support. Coronary angiogram revealed subtotal occlusion of the three coronary arteries. PCI was performed to proximal to distal LAD (culprit lesion) using three bare-metal stents (BMS) (Integrity 2.75x30, 3x30 and 3x18 mm) with Guideliner support, to LCX subtotal occlusion using one BMS (Integrity 2.75x22 mm) and to RCA subtotal occlusion using three BMS (Integrity 3.5x12mm, 3.0x30 and 3x30 mm). Patient was discharged in good medical condition after one month.

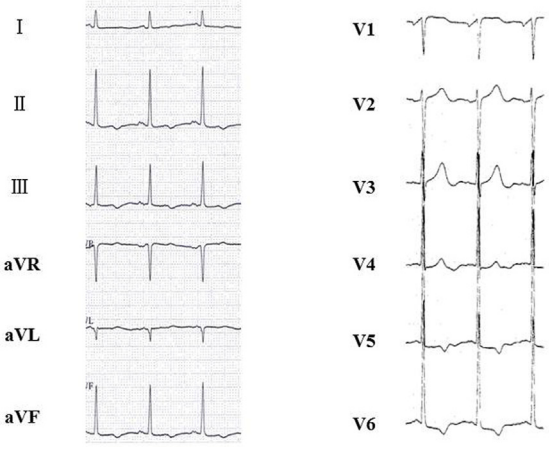
TCTAP C-151

Percutaneous Coronary Intervention for Bilateral Coronary Ostial Stenosis with Aortitis

Kou Hoshino
Tokyo Medical University, Japan

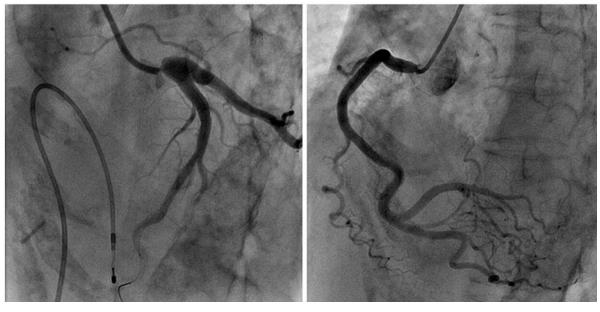
[Clinical Information]
Patient initials or identifier number:
T.K
ID: 12454015
Relevant clinical history and physical exam:
A female in 70s who was treated for 40 years as a diagnosis of the aortitis syndrome was hospitalized with congestive heart failure. Coronary angio graphy showed high grade stenotic lesions with severe calcification of bilateral coronary ostium. Furthermore, there were severe stenosis of the left subclavian artery, and total obstruction at the high level of abdominal aorta. Previously we performed angioplasty to the left subclavian artery and axillo-frmoral bypass. This time, she admitted on emergency because of unstable angina and congestive heart failure. Therefore we decided to perform percutaneous coronary intervention for bilateral coronary ostial stenotic lesions.
Relevant test results prior to catheterization:
The ECG showed a decrease of the ST segment in II, III, aVF, V5, V6.
And we could see pulmonary congestion and effusion image in the chest roentgenogram.

Electrocardiogram



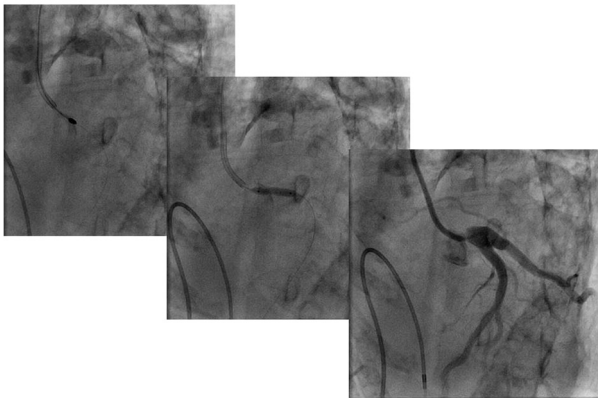
Relevant catheterization findings:
CAG revealed severe stenotic lesions with severe calcification at the bilateral coronary ostium.

CAG

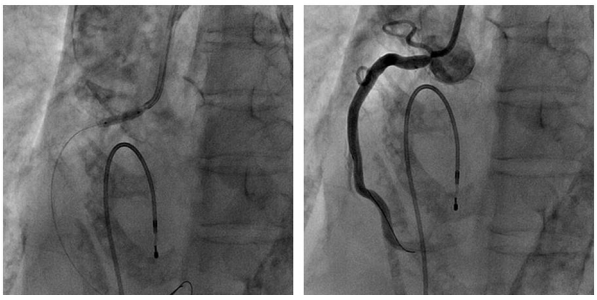


[Interventional Management]
Procedural step:
At first, we treated the LMT lesion.
After the observation of the lesion by IVUS and the evaluation by FFR, we performed rotational coronary atherectomy(Rota)using the burr of 2mm in diameter and plain old balloon angioplasty (POBA) using the balloon of the 4mm diameter.
And then, we performed POBA to RCA using the balloon of the 4mm diameter.

PCI



PCI



Case Summary:
Guiding Catheter: 7Fr JL3.5, 7FrJR4.0
Wire: BMW universal 2, Rota floppy wire
Kind of balloon catheter: KUNAI 3.0/15mm, NC Quantum 4.0/15mm
Rota burr: 2.0mm in diameter

TCTAP C-152

Stent Migration After Using Cutting Balloon

Shozo Ishihara
Mimihara Generel Hospital, Japan

[Clinical Information]
Patient initials or identifier number:
K.O
Relevant clinical history and physical exam:
A 68-year-old woman underwent percutaneous coronary intervention (PCI) for severe stenosis in right coronary artery (RCA) osmium.Her past history was CRF on HD, inferior OMI, and Severe PAD with foot amputation.
Relevant test results prior to catheterization:
She had renal failure on hemodialysis. She also had a past history of inferior MI (#4PD occlusion) 2 weeks before, and POBA was performed.
UCG showed hypokinesis of inferior wall.
Coronary Risk Factor: HT(+) HL(+) DM(-) smoking(-) HD(+)
Relevant catheterization findings:
CAG showed severe calcified lesion at RCA ostium and mid RCA.
[Interventional Management]
Procedural step:
Heavy calcified lesion was not expanded enough by 3.75mm low compliant balloon dilatation, so we performed additional dilatation by 3.5mm cutting balloon. After that, we inserted a Biolimus eluting stent (BES) and started to inflate. Subsequently, we noticed the contrast leakage and the occurrence of balloon rupture. Immediately, we deflated the balloon and tried to retrieve the stent and delivery system. But we could not pull the system into the guiding catheter because the proximal side of the stent was already half-expanded, and the stent was striped from the delivery system during the procedure. We tried to retrieve it using a loop snare, a small profile balloon catheter and a large size guiding catheter, but could not. Unwillingly, we decided to implant the stent into brachial artery and implanted a new stent into RCA ostium.